

REMARKS

Claims 76-84 and 94-104 are now pending in this application. In the outstanding Office Action, Claims 76-78 and 82-84 have been rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim subject matter which applicant regards as the invention. Claims 76-78 stand rejected under 35 U.S.C. § 101 as allegedly being nonstatutory subject matter on the grounds that the claimed subject matter of claim 76 fails to produce a useful and tangible result.

Claims 76-84 stand rejected under 35 U.S.C. § 103(a) as being allegedly obvious over United States Patent No. 5,765,159 (“Srinivasan”) in view of United States Patent No. 5,317,727 (“Tsuchida”). Applicants respectfully traverse.

Claims 76-79 and 81-84 have been amended. Claims 94-104 have been added.

35 U.S.C. § 112 Rejections

Claims 76-78 and 82-84 have been rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim subject matter which applicant regards as the invention in that the Examiner asserted that the preambles did not tie in with the body of the claims. Accordingly, the preambles of independent claims 76 and 82 have been amended to overcome these rejections. Therefore, the rejections under 35 U.S.C. § 112 of claims 76 and 82 should be withdrawn. Accordingly the rejections under 35 U.S.C. § 112 of respective dependent claims 77-78 and 83-84 should also be withdrawn.

35 U.S.C. § 101 Rejections

Claims 76-78 stand rejected under 35 U.S.C. § 101 as allegedly being nonstatutory subject matter on the grounds that the claimed subject matter of claim 76 fails to produce a useful and tangible result. Claim 76 has been amended to overcome this rejection to include the limitation *upon receiving a request the attribute for one of the other objects, providing the requested attribute from the data stored in the cache, wherein the attribute is provided in less time than if the attribute were not cached*. Therefore, the rejection of claim 76 under 35 U.S.C. § 101 should be withdrawn. Accordingly, the rejections of dependent claims 77-78 under 35 U.S.C. § 101 should also be withdrawn.

35 U.S.C. § 103 Rejections Of Claims 76-78, 94-98

Claims 76 stands rejected under 35 U.S.C. § 103(a) as being allegedly obvious over Srinivasan in view of Tsuchida. Claim 76 as amended recites in part a method for prefetching data comprising *prior to receiving a query for an attribute corresponding to an initial object in an object structure comprising a plurality of objects, creating a structure context description that identifies each object in the object structure wherein the structure context description is created from a state of an object related to the initial object, the state of the related object comprising a reference to the object structure, associating the structure context description with each object in the object structure, storing the structure context description in a physical storage system and upon receiving the query . . . using the structure context description to identify at least one other object in the object structure that has the attribute, retrieving data corresponding to the attribute of the other objects in object structure, placing in cache the data corresponding to the attribute of the other objects in the object structure; and upon receiving a request the attribute for one of the other objects, providing an appropriate data item from the data stored in the cache.*

Support for this amendment may be found, for example, on pages 13-24 of applicant's application. Briefly summarizing this discussion, a data storage system may provide access to an initial object whose state includes a structure that contains one or more other objects. The structure that contains these other objects may be referred to a "structure context" of those other objects and may be an object structure. An object structure may be a data structure that contains a group of objects. The system may create a structure context that "remembers" the objects in the structure and associates that structure context description with every object in the structure. When data for an attribute is fetched from one object in the structure (i.e., the object's structure context), data for the corresponding attribute is prefetched from the other objects in the structure, incurring a minimal incremental cost per item prefetched. The prefetched attribute is held in a cache for later use. If the application later needs attribute data from an object in the structure, the system retrieves the attribute data from the cache if it is present, thereby avoiding the high fixed overhead cost of accessing persistent storage for each attribute that can be successfully retrieved from the cache.

Srinivasan relates to a system and method for retrieving data from a relational database management system. According to Srinivasan an object query and at least one

prefetch path are received from an object-oriented source, which may be an application or a user. In particular, prefetch paths are passed by a user as strings along with the original object query. The prefetch path identifies one or more objects, which are desired to be constructed. The object-oriented query is translated to a translated object query where the translated object query is a relational database query capable of retrieving from the relational database data to initialize base attributes of top-level objects identified by the object-oriented query. A set of relational queries is generated from the translated object query and the prefetch path. These relational queries, which are capable of retrieving data from the relational database needed to construct the objects identified by the prefetch path are processed by the relational database. See Srinivasan Col. 2, Cols. 8-9.

Srinivasan fails to teach or suggest prior to receiving a query for an attribute corresponding to an initial object in an object structure comprising a plurality of objects, creating a structure context description that identifies each object in the object structure wherein the structure context description is created from a state of an object related to the initial object, the state of the related object comprising a reference to the object structure as required by amended claim 76. Applicant's application describes a method and system wherein a structure context description is generated from a state of an object related to an initial object whose attribute has been requested. This is not the same as a prefetch patch provided by a user along with query.

As Srinivasan fails to teach or suggest the use of a structure context description it cannot disclose using a structure context description to identify at least one other object in an object structure that has the attribute as recited in amended claim 76. Nor does Srinivasan disclose the use of a state of a related object.

As Tsuchida fails to cure the defects of Srinivasan, the combination of these references fails to teach the cited claim limitations and therefore claim 76 should be allowed. Claims 77-78 and 94-98 depend from and therefore include all the limitations of claim 76. Thus, for at least the reasons stated with respect to claim 76, claims 77-78 and 94-98 should be allowed.

35 U.S.C. § 103 Rejections Of Claims 79-81 And 99-101

Claim 79 as amended includes limitations similar to amended claim 76. Thus, for at least the reasons stated with respect to claim 76, claim 79 should be allowed. Claims 80-81

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and 99-101 depend from and therefore include all the limitations of claim 79. Thus, for at least the reasons stated with respect to claim 79, claims 80-81 and 99-101 should be allowed.

35 U.S.C. § 103 Rejections Of Claims 82-84 And 102-104

Claim 82 as amended includes limitations similar to amended claim 76. Thus, for at least the reasons stated with respect to claim 76, claim 82 should be allowed. Claims 83-84 and 102-104 depend from and therefore include all the limitations of claim 82. Thus, for at least the reasons stated with respect to claim 82, claims 83-84 and 102-104 should be allowed.

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CONCLUSION

In view of the above amendments and remarks, applicant respectfully submits that the present invention is in condition for allowance. Reconsideration of the application is respectfully requested.

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/Kenneth R. Eiferman/

Kenneth R. Eiferman

Registration No. 51,647

Woodcock Washburn LLP
Cira Centre
2929 Arch Street, 12th Floor
Philadelphia, PA 19104-2891
Telephone: (215) 568-3100
Facsimile: (215) 568-3439